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(MIS), growth factor 9 (GDF-9), glial-derived neurotrophic growth factor (GDNF), neurturin (NTN) and persephin.

Remarks

Claims 12, 15-18, 25, 27 and 39 have been amended. Claims 12, 15-27 and 39 are pending in the application.

Previous rejections maintained in Final Office Action

The rejections will be addressed below in the order in which they appear in the Office Action.

1. At section 12 of the Final Office Action, claims 17-18 remain rejected under 35 USC §112, first paragraph for not being enabled for a "complement" of a nucleic acid. That term has been eliminated from those claims by the foregoing amendments in order to advance the prosecution of this case or narrow the issues for appeal. Therefore, applicants respectfully request reconsideration and withdrawal of this rejection.

2. At section 13 of the Final Office Action, claims 12 and 25 remain rejected under 35 USC §112, second paragraph as being indefinite as to which fragment is being claimed. The amendments to claims 12 and 25 make it clear that the fragment claimed is a fragment of an artemin amino acid sequence that is naturally occurring and is at least 65% identical to SEQ ID NO:26 or a fragment thereof. Therefore, applicants respectfully request reconsideration and withdrawal of this rejection.

3. At section 14 of the Final Office Action, claims 16-18 remain rejected under 35 USC §112, second paragraph as being indefinite for the language "specifically hybridizes." Claim 16, from which claims 17 and 18 depend, has been amended to eliminate this language in order to advance the prosecution of this case or narrow the issues on appeal. Therefore, applicants respectfully request reconsideration and withdrawal of this rejection.

4. At section 15 of the Final Office Action, claims 12, 15-16, 19-27 and 39 remain rejected under 35 USC §112, first paragraph as containing subject matter which was not described in the specification in such a way as to convey to one skilled in the art that the inventors had possession of the claimed invention. Specifically, the language "conservatively substituted variants" of sequences listed in the claims is allegedly not supported by the specification.

The amendments to claims 12, 15, 25 and 27 above address this issue. Specifically, the language "conservatively substituted variants" has been eliminated from the claims in order to advance the prosecution of this case or narrow the issues for appeal. The claimed nucleic acids encode an artemin

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amino acid sequence that is defined in terms of percent identity relative to pre-pro-artemin as exemplified in SEQ ID NO:26. The specification, at page 16, line 5 through page 17, line 17 describes a well-known method for determining the percent identity between two sequences. Table 1 shows the percent identity between various related growth factors. The specification, at page 18, line 22 through page 20, line 2 describes the scientific basis for concluding that artemin polypeptides are expected to have sequences that are at least 65% identical. Example 1 of the specification describes the method by which artemin was discovered. This method can be used to isolate any naturally occurring artemin polynucleotide. The skilled artisan, therefore, would be able without undue experimentation, to identify and isolate any of the claimed sequences based on the information and methods described in the specification.

Applicants therefore respectfully request reconsideration and withdrawal of this rejection.

5. At section 16 of the Final Office Action, claims 12 and 15-16 remain rejected under 35 USC §102(a), as being anticipated by Waterston et al. (1998). Specifically, it is alleged in the Office Action of May 18, 2000 that the cDNA sequence disclosed in Waterston et al. meets the limitations of a nucleic acid molecule that specifically hybridizes to the nucleotide sequence set forth in SEQ ID NO:6. The amendments to claims 12 and 15 described above eliminate the limitation in order to advance the prosecution of this case or narrow the issues on appeal. Therefore, the claims are not anticipated by Waterston et al.

The reference cited teaches a nucleic acid of just under 200,000 nucleotides. The amendments to claims 12 and 15 described herein make it clear that the claimed nucleic acid sequences comprise a sequence that encodes an artemin polypeptide that is naturally occurring, and is 65% identical to SEQ ID NO:26, and promotes survival of neurons. It is that sequence that encodes an artemin polypeptide that consists of not more than 10,000 nucleotides. There is no disclosure in the cited reference of a sequence of not more than 10,000 nucleotides. Therefore, the claimed nucleic acids do not read on the ~200,000 nucleotide sequence of AC005038.

Applicants therefore respectfully request reconsideration and withdrawal of this rejection.

6. At section 17 of the Final Office Action, claims 19 and 20 remain rejected under 35 USC §103(a) as being unpatentable over Waterston et al. (1998). The amendments and discussion in part 5 of this response make it clear that the claimed nucleic acids are not anticipated by Waterston et al. Therefore, an expression vector containing any of the claimed nucleic acids would not be obvious to the skilled artisan.

Therefore, applicants respectfully request reconsideration and withdrawal of this rejection.

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7. At section 18 of the Final Office Action, claims 12 and 15 are rejected under 35 USC §112, second paragraph as being indefinite for recitation of the term "about." The amendments to claims 12 and 15 described herein eliminate the term "about" from those claims.

Therefore, applicants respectfully request reconsideration and withdrawal of this rejection.

Conclusion

It is believed that the amendments to the claims as described and discussed herein put the claims in condition for allowance. Applicants respectfully request such action. If there are any remaining issues, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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